REMARKS

Claims 6 and 11 have been canceled. Claims 1-5 and 7-9 and new Claims 13-20 are active in the case.

The present invention relates to amide compounds that are useful in the treatment of amnesia or dementia.

Claim Amendments

Claims 1 and 8 have been amended in order to make minor corrections thereto. New Claims 13-20 have been presented in view of the restriction/election requirement of record. The claims are thus supported by the claims of record in the case. New Claim 15 is directed to the elected species. Entry of the new claims into the record is respectfully requested.

Prior Art Rejection

Claims 1-7 and 9 stand rejected based on 35 USC 102 over the 12 references indicated in paragraph 3 of the Office Action. This rejection is traversed with respect to newly presented Claims 13-18 which are directed specifically to piperazine compounds.

It must be noted that all of the compound structures shown in the Chemical Abstracts references are substituted on one of the ring nitrogen atoms by an alkoxycarbonyl group in the position that corresponds to the R^1 (acyl) group of the piperazine compounds that are now claimed. However, present substituent R^1 is defined in the present Claims 13-20 in terms of the specific types of "acyl" groups described in the present specification in the paragraph bridging

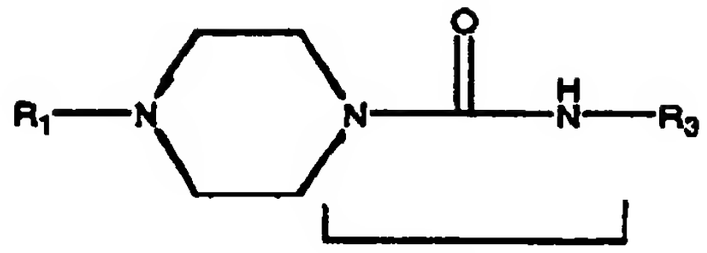
pages 14 and 15, which groups exclude the group: alkoxycarbonyl. Accordingly, the references fail to anticipate the invention as now claimed in the newly presented claims.

It should also be noted that in the 87:134271 abstract that the sulfonyl and imine groups are not in positions consistent with the definitions of groups Q and R^2 of the present claims. Much the same can be said for the positions of the carbonyl and imine groups in the compound disclosed in the 122:187622 reference. Accordingly, it is believed that the anticipatory ground of rejection has been obviated and withdrawal of the same is respectfully requested.

Claims 1-9 and 11 stand rejected based on 35 USC 102 over the Marston et al references WO 98/27930 and U. S. Patent 6,284,760, the references being equivalent disclosures. This ground of rejection is respectfully traversed with respect to newly presented Claims 13-18 which are directed specifically to piperazine compounds.

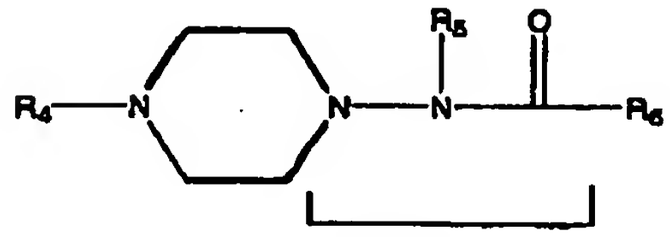
The Marston et al disclosures are directed to piperazine compounds similar to those of the present invention, except that the compounds of the Marston et al references have a ureido group attached to a nitrogen of the piperazine ring in the aggregate of $-NR^2$-Y-, where Y can be an amido linking group. On the other hand, in the present piperidine compound as now defined in the newly presented claims, a ureido linkage does not fall within the scope of the definition of -Y-Q-R^2 of the present claims. The significance of this can be further understood from the following discussion

Consider the following two simplified structures I and II, which respectively represent the scope of piperidine compounds of the present invention and the piperidine compounds of the WO 98/27930 reference and Oku et al, U. S. Patent 5,708,172.



Part A

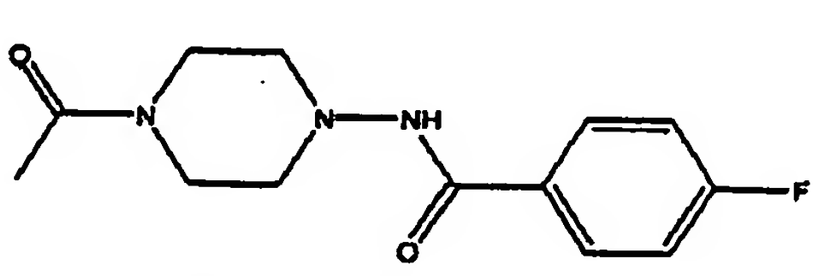
I



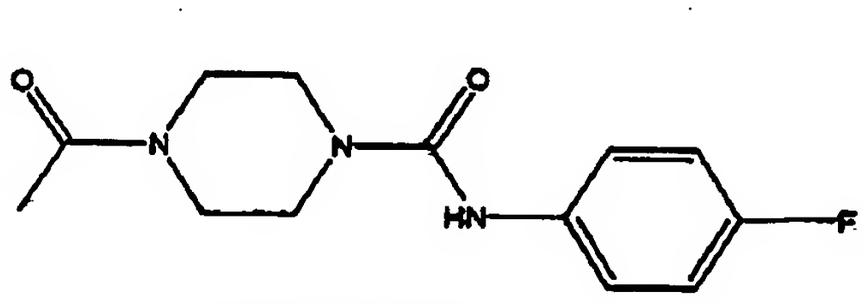
Part B

II

Observe the important difference between compounds I and II with respect to Part A of compound I and Part B of compound II. Part A features an amido group directly attached to one of the piperidine ring nitrogen atoms at the carbonyl group while Part B features an amido group directly attached to one of the piperidine ring nitrogen atoms at the amide nitrogen atom. The importance of this distinction is shown, for example, by the water solubility properties of Compound A (below) that is within the scope of the WO '930 reference and Compound B that is the compound of Example 2 of the present specification.



Compound A



Compound B

The table immediately below shows the water solubilities of the two compounds in water under acidic and basic conditions.

	Solubility (mg/ml)	
	Acid Conditions (pH = 1)	Base Conditions (pH = 9)
Compound A (WO '930)	8.01	5.92
Compound B (Example 2)	9.88	9.17

Room temperature

The difference in solubilities of the two compounds under the acidic and basic conditions is attributable to the fact that in Compound A, the ring nitrogen atom is relatively basic, while in Compound B this is not the case with the carbonyl group being positioned and bonded between the two nitrogen atoms. That is, Compound B does not have a basic nitrogen atom, which means in turn that there is very little difference in solubility of compound B in acidic aqueous or basic aqueous conditions. Clearly, the linker unit part A is not equivalent to the linker of part B.

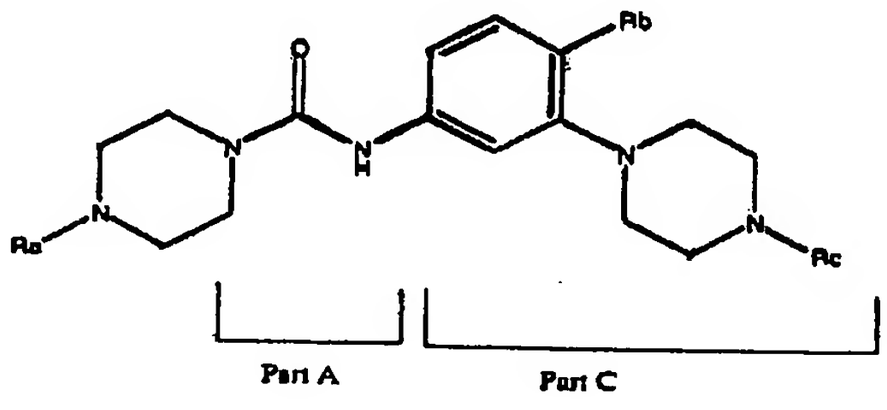
As to the matter of property difference of Compound A of WO '930 and Example 2 of the present invention, applicants refer to the data in the table below which show that the present compound exhibits superior CNS activity in comparison to Compound A. This finding is clear evidence of an unobvious distinction of the present invention over the disclosure of Marston.

	Dose (mg/kg)	Penile Erection (number/hr)
Compound A (WO '930)	1.0	0.71 ± 0.42
Compound B (Example 2)	1.0	1.14 ± 0.40

Thus, the references do not anticipate the invention as claimed in the newly presented claims and withdrawal of the same is respectfully requested.

Claims 1-9 and 11 stand rejected based on 35 USC 103(a) over WO 98/27930 alone or in view of WO 97/28141 or U. S. Patent 5,708,172. This ground of rejection is respectfully traversed with respect to newly presented Claims 13-18 which are directed specifically to piperazine compounds.

The WO '141 disclosure describes piperazine compounds that can be conveniently shown by the formula immediately below.



It is clear from the formula immediately above that the piperazine derivatives disclosed in the '141 reference are not within the scope of the claimed piperazine compounds of the present invention as described in new Claim 13. The closest the present piperazine compounds approach those of the reference are when R^2 of the present compound is arylamino. In the reference, on the other hand, the aryl substituent is substituted by another piperazine group which does not occur in the presently claimed compound. Accordingly, the disclosure of '141' does not suggest the elected aspect of the present invention and withdrawal of the rejection is respectfully requested.

The combination of the '930 reference does not obviate the present invention. The formula presented immediately above showing parts A and C clearly demonstrate that the compounds of '930 do not share part B of the compounds of '141. The linker of par A of the

above compound is not the same as the linker of part B of the compounds of '141. Moreover, part C of the above compound is a distinctive feature of the compound that is not present in the compounds of the '930 reference. Thus, the combination of the two references fails and withdrawal of the obviousness ground of rejection is respectfully requested.

As to the '172 patent, the same discloses processes for preparing piperazine compounds that have CNS activity, and describes an intermediate for the processes of preparing piperazine compounds. The CNS active compounds of formula I of the patent have a group R^1 attached to a nitrogen atom of the piperazine ring is limited to hydrogen or benzyloxycarbonyl, neither of which is within the scope of the R^1 group of the presently claimed compound. Further, the linker combination of –NH-Y- of the compounds of the patent give either an amide group or a ureido group, neither of which is the configuration of the linking amide group of the compound of present Claim 13. These compounds are identical to compounds of formula I described in Claim 1 of the '930 reference are identical to compounds of formula I in Claim 1 of the '930 reference, and the CNS activity of the intermediates is not described in the '172 patent. Thus, the '172 patent does not disclose CNS active compounds other than compounds that are described in the '930 reference as CNS active compounds. Accordingly, the patent does not suggest the presently claimed invention and withdrawal of the rejection is respectfully requested.

Claims 1-9 and 11 stand rejected based on the judicially created doctrine of obviousness-type double patenting over Claims 1-6, 9 and 10 of U. S. Patent 6,344,358 or Claims 1-31 of U. S. Patent 6,284,760. This ground of rejection is respectfully traversed with

respect to newly presented Claims 13-18 which are directed specifically to piperazine compounds.

Applicants traverse the obviousness-type double patenting rejection raised by the two patents for much the same reason advanced above with respect to the anticipatory ground of rejection based on both Marston et al references. That is, both U. S. patents claim a method of treatment involving piperazine compounds where the piperazine compounds contain a ureido group attached to one of the piperazine ring nitrogen atoms. However, in the present invention, as noted above, the $-Y-Q-R^2$ group of the claimed piperazine compounds does not permit a ureido group attached to a piperazine ring nitrogen atom. Thus, the piperazine compounds of the claims of the patent are not the same as the present piperazine compound. Further, the ureido group containing compounds of the patents do not suggest the present piperzaine compounds. Accordingly, withdrawal of the double patenting ground of rejection is respectfully requested.

It is now believed that the application is in proper condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

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